

IN THE DRAWINGS:

Copies of the pages of drawings containing figures 1, 3, 4, 5, 6, 15, 18 and 20 are submitted herewith showing proposed changes in red for approval.

IN THE CLAIMS:

Please cancel claims 1-36 and 41 inclusive without prejudice or disclaimer.

Please enter the following amended claims:

AS

--37. (Amended) ~~A padlock, including a shackle as claimed in claims 42~~ having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said longer leg being connected by a longitudinally elongated recess or flat to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball to protrude into the longer recess and second locking recess,

~~a cam to control the balls, and a coupler to facilitate operable coupling between the cam~~
and the cylinder,

the coupler being mountable within the body to provide a Type 1 padlock characterized by an unlocked, open configuration where short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

the coupler being mountable within the body to provide a Type 2 padlock characterized by an unlocked, open configuration where the short leg is free of the body, the longer leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal,

AS wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axes of the short and longer recess in the casing,

the first cam portion having a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg, wherein each finger in the removal configuration of the cam abuts an associated second drive shoulder.

and wherein the cam is rotatable in the unlocking direction to the removal configuration while the stop remains in the second operative configuration,

~~said removal configuration corresponding to the short leg being free of the casing.~~

~~said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,~~

~~said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or the flat or partly within the peripheral recess.~~

38. (Amended) A padlock, including a shackle as claimed in claim 42 having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said longer leg being connected by a longitudinally elongated recess or flat to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second vertically longitudinally elongated cusp portion, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

~~two opposed balls supported within the transverse recess; a first ball able to protrude into~~
the short recess and first locking recess and a second ball to protrude into the longer recess and
second locking recess

a cam to control the balls,

the angular disposition of the cam in the locking and unlocking configurations being
determined by a stop comprising a disc-like member supported coaxially with and relative to the
cam, and being angularly displaceable relative to the cam, and having a stop shoulder which
protrudes into the offset recess, said stop having a first operative configuration where the stop
shoulder abuts the wall of the offset recess adjacent the first cusp and a second operative
configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent
second cusp,

the padlock being characterized by:

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a closed, locked configuration corresponding to the stop being in the first
operative configuration, the short and longer legs being supported in the casing and
restrained from displacing relative to the casing, the cam being in a locking configuration and
retaining the first ball partly within the first locking recess and the second ball being partly
within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to
displace the padlock to an unlocked configuration, and an open, unlocked configuration
corresponding to the stop being in the second operative configuration, the short leg being free of
the casing, the longer leg being supported in the casing, the cam being in an unlocking

~~configuration and retaining the second ball partly within the longitudinally elongated recess or~~
flat or partly within the peripheral recess,

and wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

wherein the first cam portion has a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

As the cam being rotatable in the unlocking direction to the removal configuration while the stop remains in the second operative configuration, said removal configuration corresponding to the short leg being free of the casing, and wherein each finger in the removal configuration of the cam abuts an associated second drive shoulder,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side,

second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and

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be retained partly within the longitudinally elongated recess or the flat or partly within the peripheral recess.--

Please add the following new claims:

--42. ~~A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said longer leg being connected by a longitudinally elongated recess or flat to a peripheral recess disposed towards the end of the longer leg,~~
~~and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,~~
~~a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,~~
~~two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball to protrude into the longer recess and second locking recess,~~
~~a cam including a first cam position to control the balls and a cam drive portion that includes at least one drive recess defined between spaced drive shoulder and at least one additional drive recess,~~

~~the cam operable by the barrel through an interspaced coupler that projects into the~~
additional recess of the cam while being supported in the barrel drive recess to provide a Type 2
padlock

the cam being operable by a barrel through an interspaced coupler that projects into the
drive recess between the spaced drive shoulders of the cam while being supported in a barrel
drive recess to provide a Type 1 padlock

said Type 1 padlock being characterized by an open configuration where short leg is free
of the casing, the longer leg is supported in the casing and the key is removable,

said Type 2 padlock being characterized by an open configuration where the short leg is
free of the body, the long leg is supported in the body casing and the key and barrel cannot be
rotated to the undisplaced position to enable key removal.

43. A padlock according to claim 42, wherein the first cam portion comprising a
substantially cylindrical portion having a peripheral curved side surface defined in part by a
longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the
longitudinal axii of the short and longer recess in the casing,

said cam in a locking configuration presenting the curved side surface to each ball to
retain each ball in its corresponding locking recess,

said cam in the unlocking configuration presenting a longitudinal elongated, first
unlocking side recess to the first ball and a longitudinally elongated second unlocking side recess
to the second ball to be removed from the first locking recess and the second ball to be partly

~~removed from the second locking recess and be retained partly within the longitudinally elongated recess or the flat or partly within the peripheral recess.~~

44. A padlock according to Claim 42, wherein the casing has a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

the angular disposition of the first cam portion in the locking and unlocking configurations being determined by a stop member being part of the cam and comprising a disc-like member supported coaxially with and relative to the first cam portion said stop member having a stop shoulder which protrudes into the offset recess, said stop member being displaceable between a first operative configuration where the stop shoulder abuts the wall of the offset recess adjacent the first cusp and a second operative configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent second cusp

the padlock being characterized by:

a locked configuration corresponding to the stop being in the first operative configuration, the short and longer legs being supported in the casing and restrained from displacing relative to the casing, the cam being in a locking configuration retaining the first ball

partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and

an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, and the cam being in an unlocking configuration retaining the second ball partly within the longitudinally elongated recess or flat or partly within the peripheral recess.

45. A padlock according to Claim 42, configured as a Type 1 padlock, wherein the coupler is displaceable about the barrel axis of rotation to displace the cam to the unlocking configuration and the barrel and key to subsequently be returned to the undisplaced position while the drive pin correspondingly displaces freely within the space between the drive shoulders.

46. A padlock according to Claim 42, configured as a Type 2 padlock, wherein the coupler is displaceable about the barrel axis of rotation to displace the cam to the unlocking configuration whereupon the barrel and key become restrained from displacing to the undisplaced position.

47. A padlock according to Claim 45, wherein there is an opposed pair of drive shoulders, opposed additional drive recesses in the cam and the coupler correspondingly includes an opposed pair of drive pins supported by the barrel,

~~said drive pins having passage through while being supported in a support disc to~~
comprise the coupler, the drive pins being configured to protrude more from one side of the support disc than the other and additionally being configured so that when assembled into the padlock casing with the longer ends towards the cam, they protrude into the additional drive recesses in the cam whereby to provide a Type 2 padlock, and when assembled into the padlock casing with the shorter ends towards the cam, they protrude into the space between the drive shoulders but not into the additional drive recesses whereby to provide a Type 1 padlock.

48. A padlock according to Claim 43, wherein the first cam portion has a removable configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated third side recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg, said removal configuration corresponding to the short leg being free of the casing.

49. A padlock according to Claim 43, including a torsion spring supported about the bridge having one end attached to the cam and the other within the offset recess to bias the cam towards the locking configuration.

50. A padlock according Claim 42, including a compression spring within the longer recess to bias the shackle from the body.

51. A padlock according to Claim 42, wherein the cylinder is removable to provide accessibility to the cam to enable it to be displaced to the removal configuration.

52. A padlock according to Claim 42, wherein the cylinder is retained in the casing by a threaded fastener having a head accessible through the short recess, said cylinder barrel being

~~angularly displaceable by key to any angular disposition when the cylinder is removed from the casing.~~

53. A padlock according to Claim 42, wherein the cylinder comprises an interchangeable core retained in the casing by a sideways protruding shoulder that is displaceable to withdraw into the core by the application of a control key, said cylinder barrel being angularly displaceable by key to any angular disposition when the cylinder is removed from the casing.

~~54.~~ A padlock according to Claim 42, wherein the cylinder comprising a pin cylinder having a casing with pin chambers extending from the surface of the casing, and wherein adjacent chambers adjacent the surface of the casing are joined by a channel, said channel accommodating a resilient elongated strip extending between the chambers and having substantially cylindrical portions extending one into each chamber.

~~55.~~ A padlock shackle according to Claim 42, including a locking recess comprising two such portions located adjacently and a small distance from an other recess each being joined by a channel portion.

56. A padlock shackle according to Claim 42, wherein the longitudinally elongated recess comprises a longitudinal channel.

57. A padlock shackle according to Claim 42, wherein the peripheral recess comprises a peripheral channel around the periphery of the shackle body.

58. A padlock shackle according to Claim 56, ~~wherein the channel cross-section is defined by a radius substantially the same as the radii of the balls.--~~